



Interagency Aviation Lessons Learned



No. IALL 10-03

Date: December 30, 2009

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Subject: Foreign Object Debris in Plastic Sphere Dispensers (PSD).

Area of Concern: Housekeeping, Pre-flight inspection, and reporting.

Distribution: All Aviation Users

Discussion: Recently a unit was conducting a prescribed burn operation using a Plastic Sphere Dispenser (PSD) when it was observed that the equipment was not dispensing spheres from all of the chutes. The crew could not see what was wrong while in the air so they landed to inspect the equipment more thoroughly. What they found and how they shared this information is a valuable lesson for us all.

In their description of the operation, the unit explained that they had used the PSD hopper as a storage bin for “*various rags, tape, cleaners and lubricants*” when the system was not in use (figure 1).



Figure 1. How the PSD unit was stored.

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Although unit personnel conducted a complete check of the systems prior to actual use and bench testing the device produced satisfactory burning spheres, a small but significant flaw was waiting to disrupt the burn operation.

After take off, the Plastic Sphere Dispenser Operator (PLDO) noted that the #1 chute was not dispensing balls, but from his seated position in the aircraft he couldn't see why. In order to thoroughly check the system, the helicopter landed to allow the PLDO to get out and troubleshoot the problem. It was quickly discovered that a plastic cap from a can of lubricant was blocking the flow of balls through the #1 chute (figures 2 and 3).



Figures 2 and 3. Cap blocking the #1 chute.

Covered with the PSD balls, the black cap was virtually impossible to see during final ground system checks.

The PLDO quickly corrected the problem and the Unit Aviation Manager documented the lessons learned in an excellent SAFECOM. Better housekeeping practices and a closer inspection during pre-flight inspections are on this unit's agenda and, as a result of their sharing this lesson, they should be on your list as well.

Utilizing the hopper as a storage container for the tool bag and other assorted items not only poses the risk of foreign objects, additional dirt and grime, but also has been known to cause damage to the shaker mechanism. To ensure good maintenance of the PSD machine, DO NOT use the hopper as a storage container.

For further information on wildland fire and aviation safety, visit the Wildland Fire Lessons Learned Center at <http://www.wildfirelessons.net/Home.aspx>

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